

SAFETY DATA SHEET

1. Identification

Product identifier: HYDROCHLORIC ACID (10%-33%)

Other means of identification

Product No.: 4657, 4654, H168, H151, 2608, 5619, 5618, 0365, 0327, 0323, 0319

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Physical hazards

Corrosive to metals Category 1

Health hazards

Acute toxicity (Oral) Category 4

Skin corrosion/irritation Category 1

Serious eye damage/eye irritation Category 1

Specific target organ toxicity - single exposure Category 3

Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: May be corrosive to metals.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Precautionary statement

- Prevention:** Keep only in original container. Wash thoroughly after handling. Do not breathe dust/mist/vapors. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Do not eat, drink or smoke when using this product.
- Response:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.
- Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

| Chemical identity | Common name and synonyms | CAS number | Content in percent (%)* |
|-------------------|--------------------------|------------|-------------------------|
| HYDROCHLORIC ACID | | 7647-01-0 | 10 - 33% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

- General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion:** Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation:** Move to fresh air. Call a physician or poison control center immediately. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration.
- Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Causes severe skin and eye burns. Causes digestive tract burns.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General fire hazards: The product is non-combustible. Product is highly acidic.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: Fire may produce irritating, corrosive and/or toxic gases. Product is acidic. Wear appropriate protective gear if spilled during fire fighting.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Neutralize spill area and washings with soda ash or lime. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Avoid inhalation of vapors and spray mists. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product. Never add water to acid! Use caution when adding this material to water. Always add acid to water while stirring to prevent release of heat, steam and fumes.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Keep container tightly closed in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Chemical identity | Type | Exposure Limit values | Source |
|-------------------|-----------|-----------------------|---|
| HYDROCHLORIC ACID | Ceiling | 2 ppm | US. ACGIH Threshold Limit Values (2011) |
| | Ceil_Time | 5 ppm 7 mg/m3 | US. NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | Ceiling | 5 ppm 7 mg/m3 | US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006) |
| | Ceiling | 5 ppm 7 mg/m3 | US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |

Appropriate engineering controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection: Chemical resistant gloves

Other: Wear suitable protective clothing and gloves.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Chemical respirator with acid gas cartridge.

Hygiene measures: Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash contaminated clothing before reuse. Wash hands before breaks and immediately after handling the product. Avoid contact with eyes, skin, and clothing.

9. Physical and chemical properties

Appearance

Physical state: Liquid

Form: Liquid

| | |
|--|----------------------------|
| Color: | Colorless |
| Odor: | Pungent |
| Odor threshold: | No data available. |
| pH: | 0.1 (1 N aqueous solution) |
| Melting point/freezing point: | <= -26 °C |
| Initial boiling point and boiling range: | >= 71 °C |
| Flash Point: | Not applicable |
| Evaporation rate: | As water |
| Flammability (solid, gas): | No data available. |
| Upper/lower limit on flammability or explosive limits | |
| Flammability limit - upper (%): | |
| Flammability limit - lower (%): | |
| Explosive limit - upper (%): | No data available. |
| Explosive limit - lower (%): | No data available. |
| Vapor pressure: | 1.95 - 5.5 kPa |
| Vapor density: | No data available. |
| Relative density: | 1.06 (20 °C) |
| Solubility(ies) | |
| Solubility in water: | Soluble |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water): | No data available. |
| Auto-ignition temperature: | No data available. |
| Decomposition temperature: | No data available. |
| Viscosity: | No data available. |

10. Stability and reactivity

| | |
|--|--|
| Reactivity: | Reacts violently with strong alkaline substances. |
| Chemical stability: | Material is stable under normal conditions. |
| Possibility of hazardous reactions: | Hazardous polymerization does not occur. |
| Conditions to avoid: | Contact with incompatible materials. |
| Incompatible materials: | Strong bases. Alkalies. Amines. Metals. Oxidizing agents. Reducing agents. |
| Hazardous decomposition products: | Chlorine. Hydrogen Chloride. May decompose upon heating to produce corrosive and/or toxic fumes. |

11. Toxicological information

Information on likely routes of exposure

| | |
|----------------------|---|
| Ingestion: | May cause burns of the gastrointestinal tract if swallowed. |
| Inhalation: | May cause damage to mucous membranes in nose, throat, lungs and bronchial system. |
| Skin contact: | Causes severe skin burns. |
| Eye contact: | Causes serious eye damage. |

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)****Oral**

Product: No data available.
Specified substance(s):
HYDROCHLORIC ACID LD 50 (Rat): 581 mg/kg

Dermal

Product: No data available.

Inhalation

Product: No data available.

Repeated dose toxicity

Product: No data available.

Skin corrosion/irritation

Product: Causes severe skin burns.

Serious eye damage/eye irritation

Product: Causes serious eye damage.

Respiratory or skin sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity**In vitro**

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific target organ toxicity - single exposure

Product: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure

Product: None known.

Aspiration hazard

Product: Not classified

Other effects:

None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

HYDROCHLORIC ACID LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 282 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Specified substance(s):

HYDROCHLORIC ACID LC 50 (Green or European shore crab (*Carcinus maenas*), 48 h): 240 mg/l Mortality
LC 50 (Common shrimp, sand shrimp (*Crangon crangon*), 48 h): 260 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: Expected to be readily biodegradable.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: The product is water soluble and may spread in water systems.

Other adverse effects: The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number: UN 1789
 UN proper shipping name: Hydrochloric acid
 Transport hazard class(es)
 Class(es): 8
 Label(s): 8
 Packing group: II
 Marine Pollutant: No

IMDG

UN number: UN 1789
 UN proper shipping name: HYDROCHLORIC ACID
 Transport hazard class(es)
 Class(es): 8
 Label(s): 8
 EmS No.: F-A, S-B
 Packing group: II
 Marine Pollutant: No

IATA

UN number: UN 1789
 Proper Shipping Name: Hydrochloric acid
 Transport hazard class(es):
 Class(es): 8
 Label(s): 8
 Marine Pollutant: No
 Packing group: II

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

HYDROCHLORIC ACID Reportable quantity: 5000 lbs.

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance

| Chemical identity | RQ | Threshold Planning Quantity |
|-------------------|-----------|-----------------------------|
| HYDROCHLORIC ACID | 5000 lbs. | 500 lbs. |

SARA 304 Emergency release notification

| Chemical identity | RQ |
|-------------------|-----------|
| HYDROCHLORIC ACID | 5000 lbs. |

SARA 311/312 Hazardous chemical

| Chemical identity | Threshold Planning Quantity |
|--------------------------|------------------------------------|
| HYDROCHLORIC ACID | 500lbs |

SARA 313 (TRI reporting)

| Chemical identity | Reporting threshold for other users | Reporting threshold for manufacturing and processing |
|--------------------------|--|---|
| HYDROCHLORIC ACID | 10000 lbs | 25000 lbs. |

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

HYDROCHLORIC ACID Reportable quantity: 5000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

HYDROCHLORIC ACID Threshold quantity: 15000 lbs

HYDROCHLORIC ACID Threshold quantity: 5000 lbs

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

HYDROCHLORIC ACID Listed

US. Massachusetts RTK - Substance List

HYDROCHLORIC ACID Listed

US. Pennsylvania RTK - Hazardous Substances

HYDROCHLORIC ACID Listed

US. Rhode Island RTK

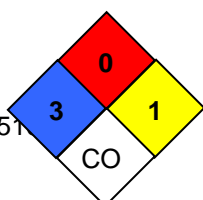
HYDROCHLORIC ACID Listed

Inventory Status:

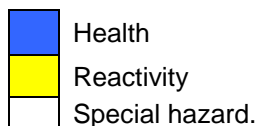
| | |
|--|--|
| Australia AICS: | On or in compliance with the inventory |
| Canada DSL Inventory List: | On or in compliance with the inventory |
| EU EINECS List: | On or in compliance with the inventory |
| EU ELINCS List: | Not in compliance with the inventory. |
| Japan (ENCS) List: | On or in compliance with the inventory |
| EU No Longer Polymers List: | Not in compliance with the inventory. |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Korea Existing Chemicals Inv. (KECI): | On or in compliance with the inventory |
| Canada NDSL Inventory: | Not in compliance with the inventory. |
| Philippines PICCS: | On or in compliance with the inventory |
| US TSCA Inventory: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | On or in compliance with the inventory |
| Switzerland Consolidated Inventory: | Not in compliance with the inventory. |
| Japan ISHL Listing: | Not in compliance with the inventory. |
| Japan Pharmacopoeia Listing: | Not in compliance with the inventory. |

16. Other information, including date of preparation or last revision

NFPA Hazard ID



 Flammability



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe
COR: Corrosive

Issue date: 07-25-2014

Revision date: No data available.

Version #: 1.0

Further information: No data available.

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